

IN THE CLAIMS:

1-13. (Cancelled)

14. (currently amended) A method for monitoring of a print image, comprising the steps of:

electro-optically detecting and digitizing a real image in individual pixels;

providing a reference image that is segmented to a plurality of segments such that respective pixels in the respective segments exhibit approximately a same color property as the respective segments, a reference value describing said color property being associated with the pixels arranged in the respective segments; and

said segmenting of the reference image comprising the steps of

successively processing the pixels of the reference image,

reading out reference values of already processed pixels adjacent to the pixel which is to be processed,

determining which of the reference values is most similar to a color property of the pixel which is to be processed, and

if a difference of said reference value and the color property is less than a predetermined threshold, the pixel which is to be processed is associated with the segment that contains the pixel whose reference value is nearest to the color property of the processed pixel, otherwise the pixel which is to be processed forms a core of a new segment; and

comparing color properties of the pixels of the real image with the corresponding reference values of the reference image, and given a deviation above a predetermined threshold value, marking a corresponding pixel as an error in a

result image, boundary regions of the segments not being considered in the comparison.

15. (previously presented) A method according to claim 14 wherein the color properties associated with the segments are grey levels or color values, or grey values and color values.

16. (previously presented) A method according to claim 14 wherein the pixels of the real image are mapped to corresponding pixels of the reference image via an affine mapping before the comparison.

17. (previously presented) A method according to claim 14 wherein the boundary regions exhibit a width of 1 to 10 pixels.

18. (previously presented) A method according to claim 14 wherein the result image is prepared in that individual pixels or a few pixels that are contiguous and marked as errors are reset in the result image, such that these pixels are not marked as errors in the prepared result image.

19. (previously presented) A method according to claim 14 wherein the result image is compressed for transfer to a monitoring station.

20. (previously presented) A method according to claim 14 wherein for the segmentation of the reference image

providing a digital reference image with a plurality of pixels;

determining contiguous regions with approximately the same color property, such a region respectively forming the segment; and

associating the reference value with the pixels of the segment, the reference value being a measurement for the color property of the respective segment.

21. (previously presented) A method according to claim 20 wherein a non-reference value is associated with the pixels at the boundary region of the segments, which means that said pixels are not to be compared with the pixels of the real image.

22. (previously presented) A method according to claim 20 wherein in the determination of contiguous regions with the same color property, all pixels are selected for such a region whose color property values lie within a certain range around the value of said color property.

23. (previously presented) A method according to claim 20 wherein segments that are smaller than a predetermined size and that exhibit an adjacent segment whose color property is less removed than a predetermined color interval from the color property of said segment is joined with the adjacent segment, a color property averaged from the color properties of both segments being used as a color property of the joined segment.

24. (previously presented) A method according to claim 14 wherein the monitoring of the print image is a real-time monitoring.

25. (previously presented) A device for real-time monitoring of a print image, comprising:

a printing device;

an optical scanning device which scans the printed material;

an evaluation device that is connected with the optical scanning device, the evaluation device comprising a computer with a storage and a central processor;

a program stored in the storage of the evaluation device; and

the program monitoring the print image by

digitizing a real image in individual pixels,

segmenting a reference image into a plurality of segments such that respective pixels in the respective segments exhibit approximately a same color property as the respective segments, a reference value describing said color property being associated with the pixels arranged in the respective segments, and

said segmenting of the reference image comprising the steps of

successively processing the pixels of the reference image,

reading out reference values of already processed pixels adjacent to the pixel which is to be processed,

determining which of the reference values is most similar to a color property of the pixel which is to be processed, and

if a difference of said reference value and the color property is less than a predetermined threshold, the pixel which is to be processed is associated with the segment that contains the pixel whose reference value is nearest to the color property of the processed pixel, otherwise the pixel which is to be processed forms a core of a new segment; and

comparing color properties of the pixels of the real image with the corresponding reference values of the reference image, and given a deviation above the predetermined threshold value, marking a corresponding pixel as an error in a result image, boundary regions of the segments not being considered in the comparison.

26. (currently amended) A ~~software-product~~ computer-readable medium comprising a computer program for monitoring of a print image wherein a reference image is provided for said monitoring, and wherein a real image is detected and digitized in individual pixels, said ~~software-product~~ program performing ~~executing a method comprising~~ the steps of:

segmenting the reference image into a plurality of segments such that respective pixels in the respective segments exhibit approximately a same color property as the respective segments, a reference value describing said color property being associated with the pixels arranged in the respective segments; and

said segmenting of the reference image comprising the steps of

successively processing the pixels of the reference image,

reading out reference values of already processed pixels adjacent to the pixel which is to be processed,

determining which of the reference values is most similar to a color property of the pixel which is to be processed, and

if a difference of said reference value and the color property is less than a predetermined threshold, the pixel which is to be processed is associated with the segment that contains the pixel whose reference value is nearest to the color property of the processed pixel, otherwise the pixel which is to be processed forms a core of a new segment; and

comparing color properties of the pixels of the real image with the corresponding reference values of the reference image, and given a deviation above a predetermined threshold value, marking a corresponding pixel as an error in a result image, boundary regions of the segments not being considered in the comparison.

27-28. (cancelled)